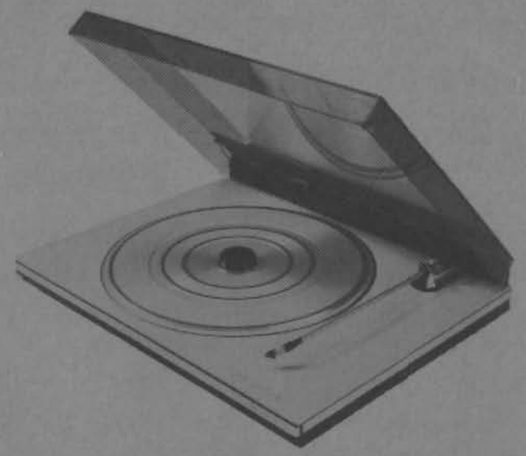
BANG & OLUFSEN
DK – 7600 STRUER
DENMARK

TELEPHONE 07 – 85 11 22* – TELEX 66529
CABLE ADDRESS BANGOLUF

3538553 12-82

Bang&Olufsen



Beogram 1800
Type 5811/13/14/15

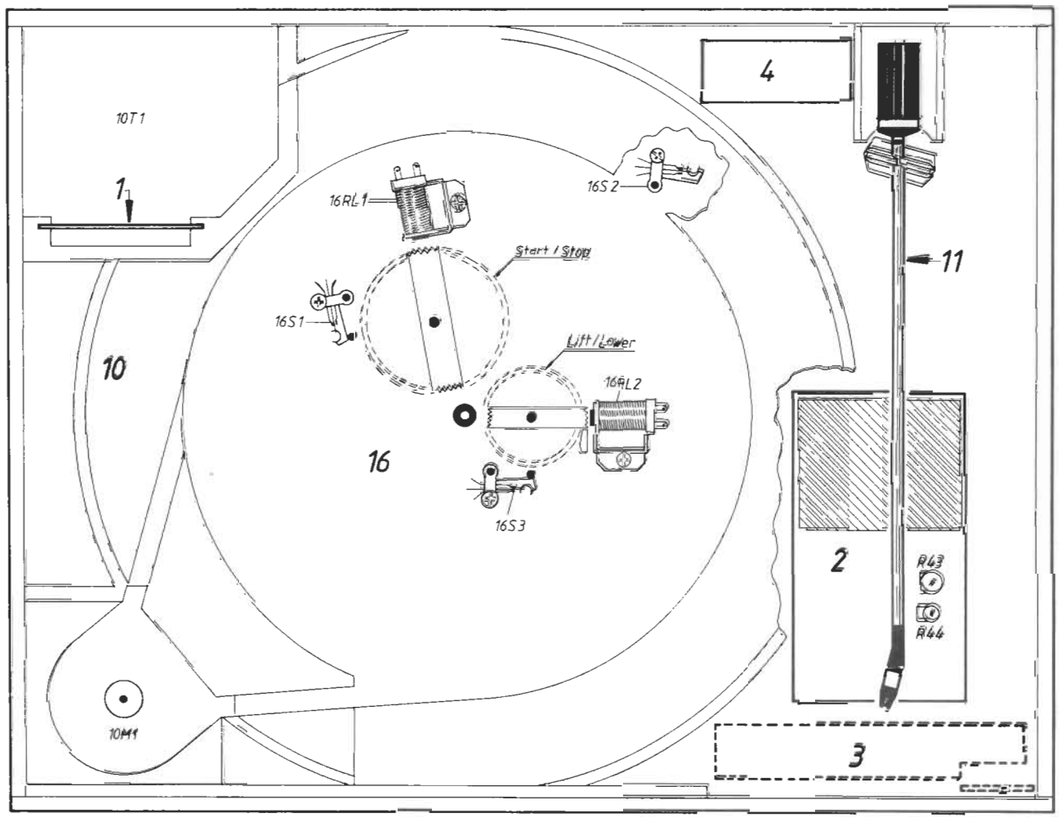
Beogram 5000
Type 5803/04/05/06

Beogram 2000
Type 5821/23/24/25

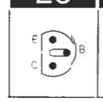
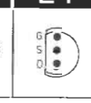
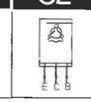
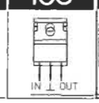
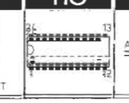
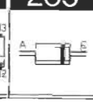
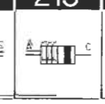
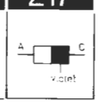
SERVICEANVISNING
SERVICE MANUAL

MODULES

1. Power Supply
2. µComputer/Control Circuit
3. Keyboard Panel
4. Muting Circuit
10. Chassis/Cabinet
11. Tonearm
12. Dust Cover
16. Floating Chassis



SEMI-CONDUCTORS

20	24	32	105	113	209	215	217
							

Transistors

2TR1	8320240	**32**	BD 136/W	2TR7-TR8	8320097	**20**	BC 547B
2TR2	8320152	**20**	BC 557B	2TR9	8320396	**24**	MPF 4392
						24	2N 5630
2TR3	8320097	**20**	BC 547B			**24**	2N 4392
2TR4-TR5	8320295	**20**	BC 337-25/18	2TR10	8320097	**20**	BC 547B

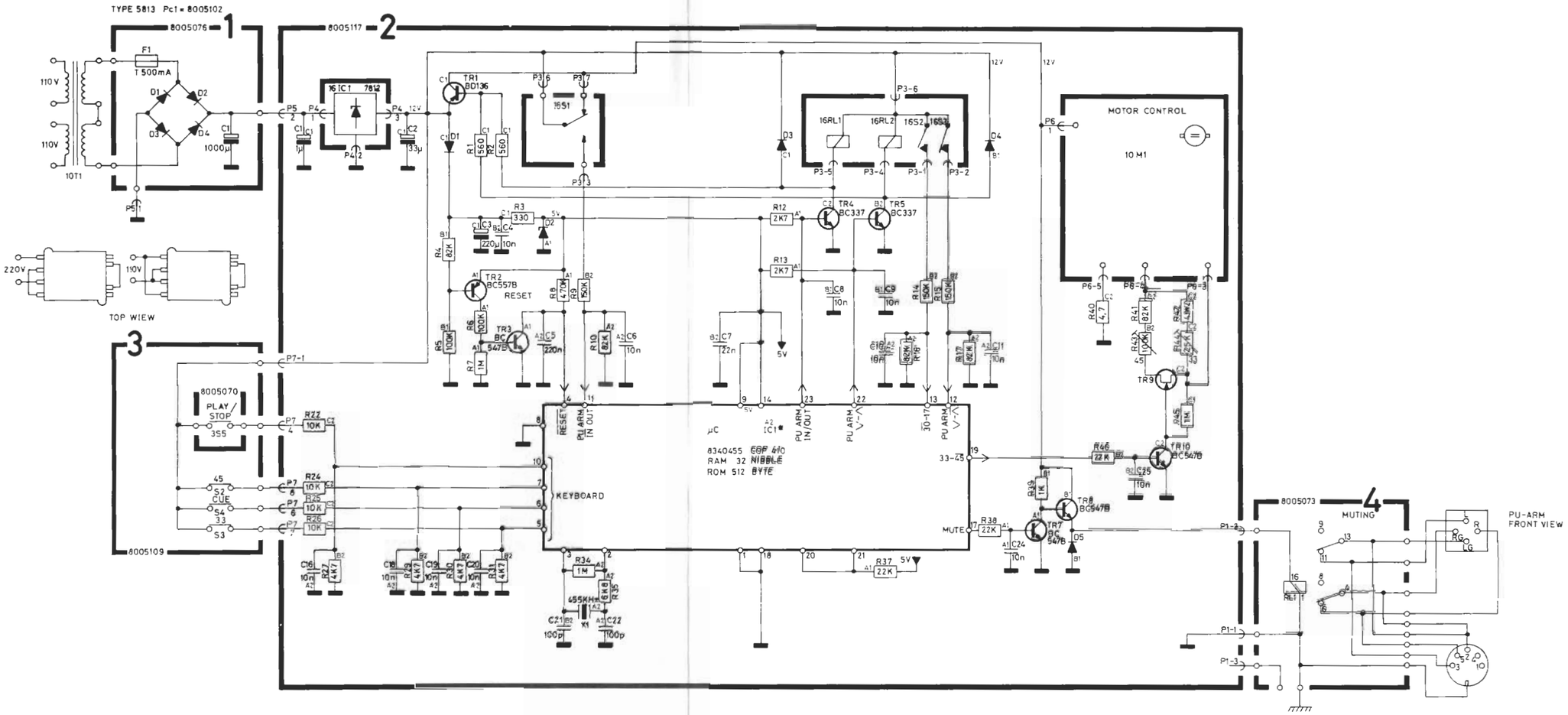
IC's

2IC1Δ	8340456	**113**	COP 410	16IC1	8340049	**105**	7812C
						105	LM 340T-12
						105	µA 7812CU
						105	MC 7812

Diodes

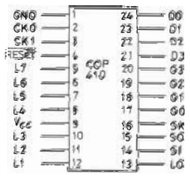
1D1-D4	8300023	**209**	1N 4002	2D2	8300169	**209**	ZPD 5V1
		209	1N 4003			**209**	BZX 79 C5V1
						209	BZX 83 C5V1
2D1	8300058	**209**	1N 4148				
		217	SFD 184	2D3-D5	8300058	**209**	1N 4148
		215	1N 4148			**217**	SFD 184
						215	1N 4148

Δ betyder at statisk elektricitet kan ødelægge komponenten.
Δ indicates that static electricity may destroy the component.
Δ bedeutet, daß statische Elektrizität die Komponente zerstören kann.
Δ signifi que électricité statique peut detruire le composant.



	ACTIVATE	PLAY-STOP			CUE	CUE			PLAY-STOP			CUE	CUE			RUN OFF STOP		
	Tcm record on turntable	PU in 27-3sec	PU down 18sec	Playing	PU up 18sec	Pause	PU down 18sec	Playing	PU up 18sec	PU out 2.7sec	Stop	PU in 27-3sec	PU down 18sec	Playing	PU up 18sec	PU out 2.7sec	Stop
PU arm in/out output	PIN 23 (16RL1)																
30/17 cm. input	* PIN 13 (16S2)																
PU arm in/out input	PIN 11 (16S1)																
Lift/lower output	PIN 22 (16RL2)																
Lift/lower input	PIN 12 (16S3)																

* PIN 13 is constant low with 30 cm. record



Explanation of the fuse symbols used in the set:

Explanation des symboles du fusible utilisés dans l'appareil:

T500 mA
250 V

Replace with same type 500 milliamperes 250 volts slow acting fuse.

Remplacer par un fusible de meme type retardé et de 500 milliamperes 250 volts.

LIST OF ELECTRICAL PARTS

Power Supply 8005076 – PCB1

C1	4200388	1000 µF 35V	F1	6600024	500 mA-slow
				6600033	500 mA-slow (5813/14)

Control Circuit 8005117 – PCB2

R1	5010067	560 Ω ±5% 1/4W	R25	5010059	10 kΩ ±5% 1/4W
R2	5010067	560 Ω ±5% 1/4W	R26	5010059	10 kΩ ±5% 1/4W
R3	5010044	330 Ω ±5% 1/4W	R27	5010048	4.7 kΩ ±5% 1/4W
R4	5010091	82 kΩ ±5% 1/4W	R29	5010048	4.7 kΩ ±5% 1/4W
R5	5010049	100 kΩ ±5% 1/4W	R30	5010048	4.7 kΩ ±5% 1/4W
R6	5010049	100 kΩ ±5% 1/4W	R31	5010048	4.7 kΩ ±5% 1/4W
R7	5010054	1 MΩ ±5% 1/4W	R34	5010054	1 MΩ ±5% 1/4W
R8	5010077	470 kΩ ±5% 1/4W	R35	5010040	1 kΩ ±5% 1/4W
R9	5010063	150 kΩ ±5% 1/4W	R37	5010079	22 kΩ ±5% 1/4W
R10	5010091	82 kΩ ±5% 1/4W	R38	5010079	22 kΩ ±5% 1/4W
R12	5010298	2.7 kΩ ±5% 1/4W	R39	5010040	1 kΩ ±5% 1/4W
R13	5010298	2.7 kΩ ±5% 1/4W	R40	5020501	4.7 Ω ±5% 1W
R14	5010063	150 kΩ ±5% 1/4W	R41	5010091	82 kΩ ±5% 1/4W
R15	5010063	150 kΩ ±5% 1/4W	R42	5020132	43.2 kΩ ±1% 1/4W
R16	5010091	82 kΩ ±5% 1/4W	R43	5370128	100 kΩ ±20%
R17	5010091	82 kΩ ±5% 1/4W	R44	5370068	25 kΩ ±20%
R22	5010059	10 kΩ ±5% 1/4W	R45	5010054	1 MΩ ±5% 1/4W
R24	5010059	10 kΩ ±5% 1/4W	R46	5010079	22 kΩ ±5% 1/4W

C1	4200512	1 µF 50V	C11	4010106	10 nF -20+80% 40V
C2	4200509	33 µF 25V	C16	4010106	10 nF -20+80% 40V
C3	4200396	220 µF 16V	C18	4010106	10 nF -20+80% 40V
C4	4010106	10 nF -20+80% 40V	C19	4010106	10 nF -20+80% 40V
C5	4130233	0.22 µF ±20% 63V	C20	4010106	10 nF -20+80% 40V
C6	4010106	10 nF -20+80% 40V	C21	4000139	100 pF ±5% 63V
C7	4010107	22 nF -20+100% 40V	C22	4000139	100 pF ±5% 63V
C8	4010106	10 nF -20+80% 40V	C24	4010106	10 nF -20+80% 40V
C9	4010106	10 nF -20+80% 40V	C25	4010106	10 nF -20+80% 40V
C10	4010106	10 nF -20+80% 40V			

P1	7220285	Plug 3 pins	P5	7220279	Plug 2 pins
P3	7220286	Plug 7 pins	P6	7220114	Plug 5/4 pins
P4	7210020	Socket 3 pins	P7	7220130	Plug 8/7 pins

	7200072	Socket f/IC1
	3302363	Cover f/µC

X1	8030024	455 kHz ±1 kHz

Muting – PCB4

RL1	7600059	Relay 12V

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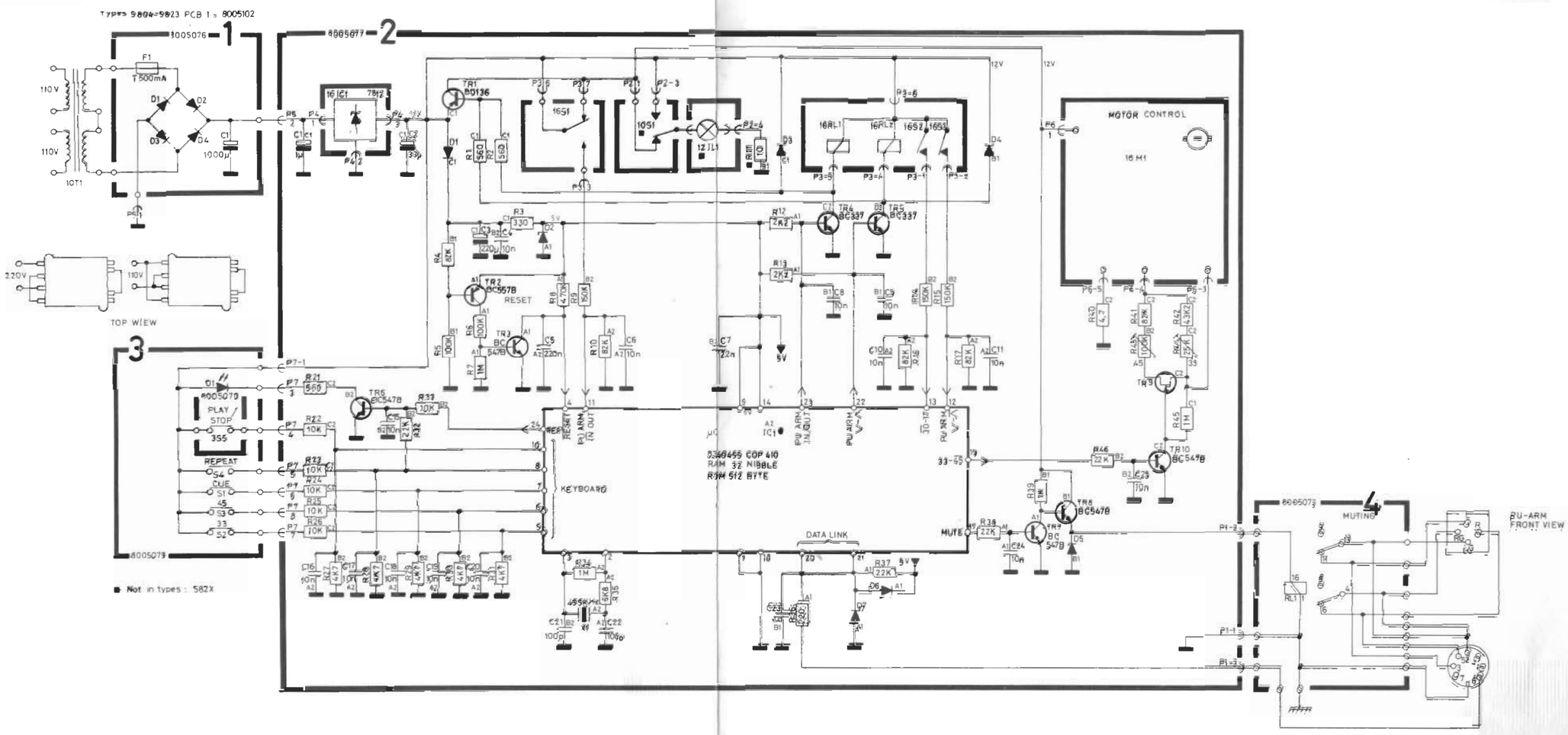
BEOGRAM 5000, type 580x

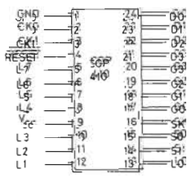
BEOGRAM 2000, type 582x

PASTE INTO SERVICE MANUAL BEOGRAM 1800



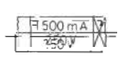
ACTIVATE	PLAY-STOP			CUE	CUE		PLAY-STOP			CUE	CUE		RUN OFF STOP		
17cm record on turntable	PU in 2,7-3sec	PU down 18sec	Playing	PU up 18sec	Pause	PU down 18sec	Playing	PU up 1,5sec	PU out 2,7sec	Stop	PU in 2,7-3sec	PU down 1,8sec	Playing	PU up 1,8sec	PU out 2,7sec	Stop
PU arm in/out output	PIN 23 (16TL13)															
30 / 17 cm. input	■PIN 13 (16S2)															
PU arm in/out input	PIN 11 (16S1)															
Lift / lower output	PIN 22 (16PL2)															
Lift / lower input	PIN 12 (16S3)															

■ PIN 13 is constant low with 30cm. record



Explanation of the fuse symbols used in the set:

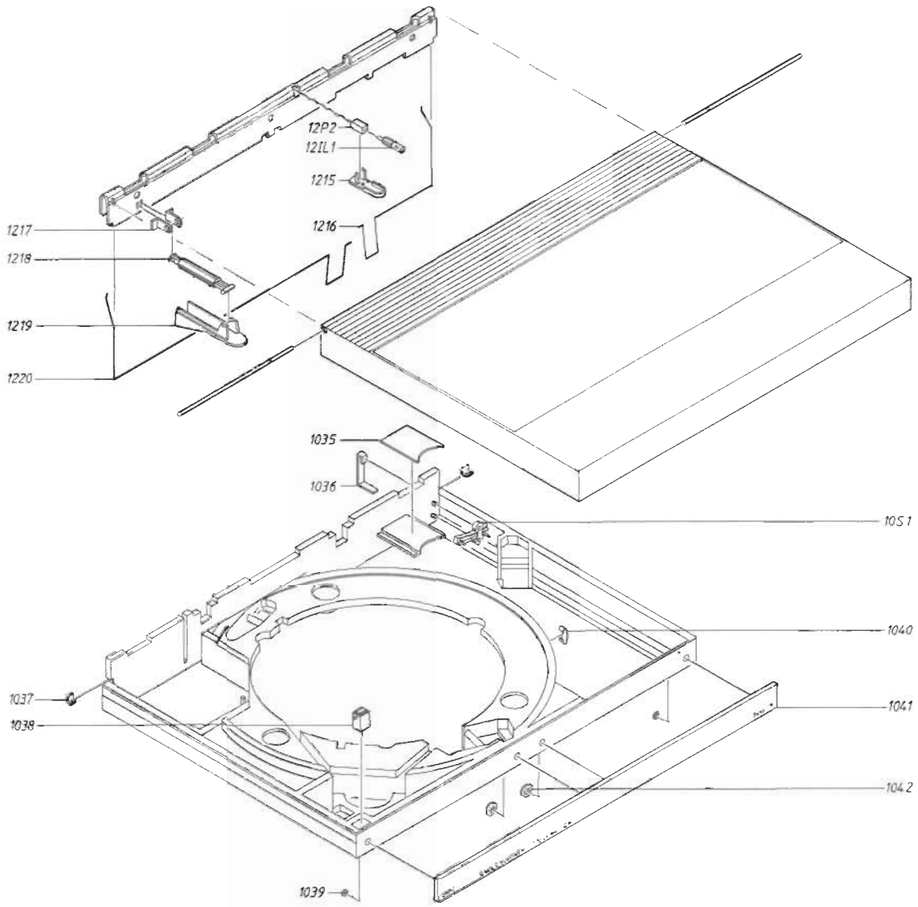
Explanation des symboles de fusible utilisés dans l'appareil:



Replace with same type 500 mA-250 V slow acting fuse.

Remplacer par un fusible de même type retardé et de 500 mA-250 V.

BEOGRAM 5000, type 580x



02Modul	8005077	Styrekredsløb	Control circuit
02TR6	8320097	BC 547B	BC 547B
02D6- 02D7	8300058	1N 4148	1N 4148
03Modul	2775895	Knapsæt m/print	Set of buttons w/PCB
03P7	6275493	Ledning m/stik	Wires w/socket
03D1	8330074	LED rød V 330PA	LED red V 330PA
1001	3458275	Topplade	Top plate
1011	8954870	Pickup MMC 4-R	Pick-up MMC 4-R
* 1018	2510141	Spændestykke	Clamp
1025	3414010	Kabinet, alu	Cabinet, alu
	3414013	Kabinet, palisander	Cabinet, rosewood
1032	3035026	Glidesko	Plastic foot
* 1035	3458270	Alu-Plade	Alu-plate
1036	2530436	Arm	Arm
1037	2815010	Bronzefjeder	Bronze spring
1038	3152355	Magnet	Magnet
1039	2390085	E-ring 3	E-ring 3
1040	2819192	Bronzefjeder	Bronze spring
1041	2568691	Frontprofil	Front piece
1042	2390001	Låseskive 2,3	Retaining ring 2.3
10S1	7402081	Microomskifter	Micro switch
* 11Modul	2850126	Pickuparm, komplet	Tonearm, complete
*	3302353	Pynteskærme	Decorative shells

BEOGRAM 2000, type 582x

1205	3030064	Hængsel	Hinge
1210	3164546	Støvlåg	Dust cover
1215	3152376	Dæksel	Cover
1216	2819170	Torsionsfjeder	Torsion spring
1217	2530434	Vinkel	Bracket
1218	3011020	Friktionsdæmper	Schock reducer
1219	3164488	Dæksel	Cover
1220	2819169	Torsionfjeder	Torsion spring
12P2	6274042	Ledning m/stik	Wires w/sockets
12IL1	8230077	12V-83mA	12V-83mA
	3535012	Diagramhæfte	Diagram folder
	6271169	Signalkabel 7 pol.	Connector 7 pol.
02Modul	8005077	Styrekredsløb	Control circuit
02TR6	8320097	BC 547B	BC 547B
02D6- 02D7	8300058	1N 4148	1N 4148
03Modul	2775895	Knapsæt m/print	Set of buttons w/PCB
03P7	6275493	Ledning m/stik	Wires w/socket
03D1	8330074	LED rød V 330PA	LED red V 330PA
1001	3458314	Topplade	Top plate
	2560145	Frontskinne	Front piece
	3535012	Diagramhæfte	Diagram folder
	6271169	Signalkabel 7 pol.	Connector 7 pol.

Øvrige dele som Beogram 1800, type 581x

Other parts as for Beogram 1800, type 581x

***Rettelse til stykliste Beogram 1800**

***Correction of parts list for Beogram 1800**

MMC4 Cartridge

Recommended tracking force	12 mN/1.2 g
Frequency range	20-20,000 Hz ±2.5 dB
Channel separation 1000 Hz	>22 dB
Channel separation 50-15,000 Hz	>17 dB
Channel difference	<2 dB
Stylus	Elliptical diamond
Cantilever	Tapered aluminium tube
Effective tip mass	0.4 mg
Compliance	25 µm/mN
Sensitivity mV/cm/s RMS	>0.6 mV
Output 5 cm lateral RMS	>2.12 mV
Cartridge weight	1.6 g
Load impedance	≧47 kΩ
Load capacity	≦400 pF

Subject to change without notice

3538562
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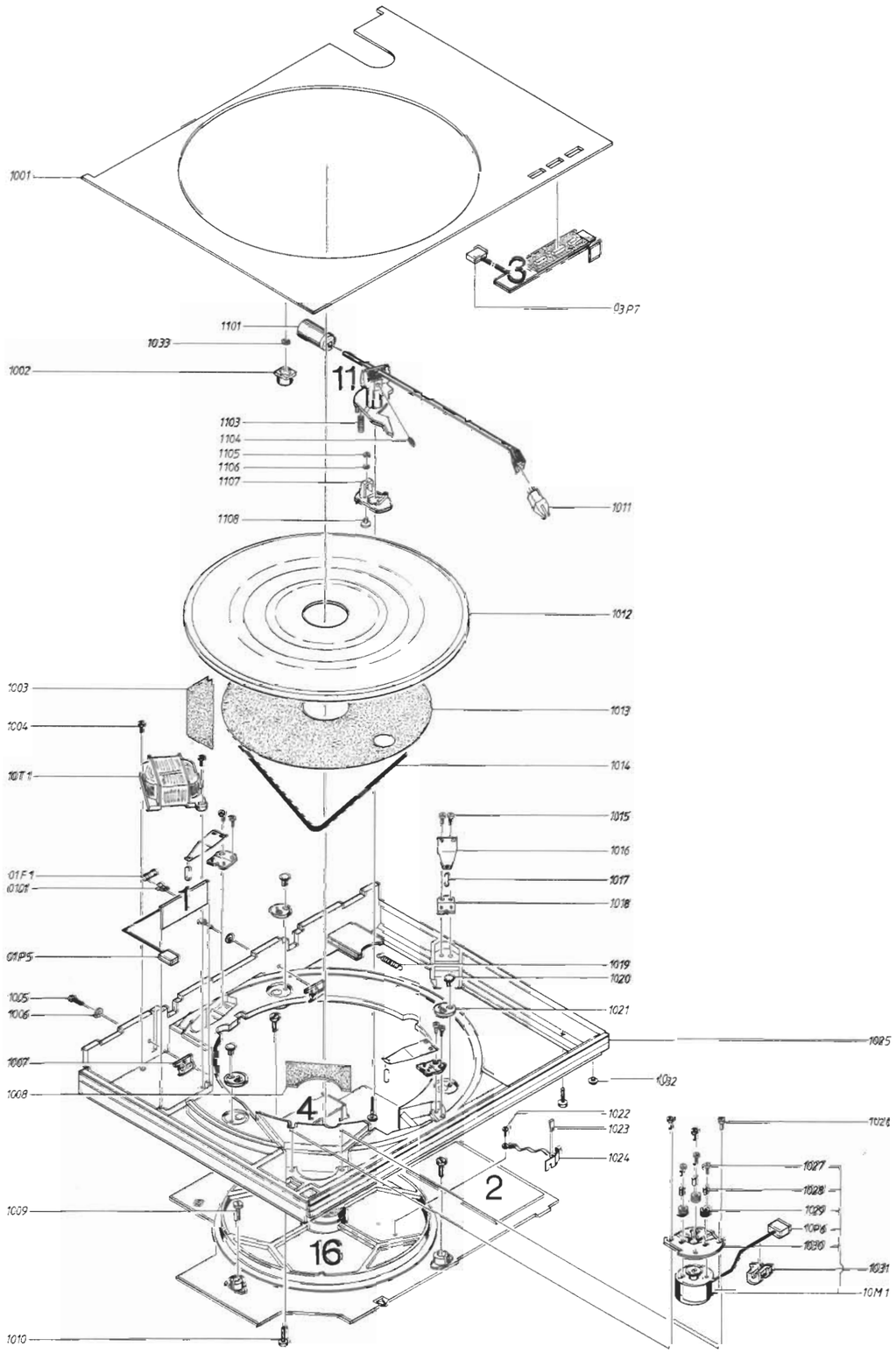
BEOGRAM 1800, type 581x

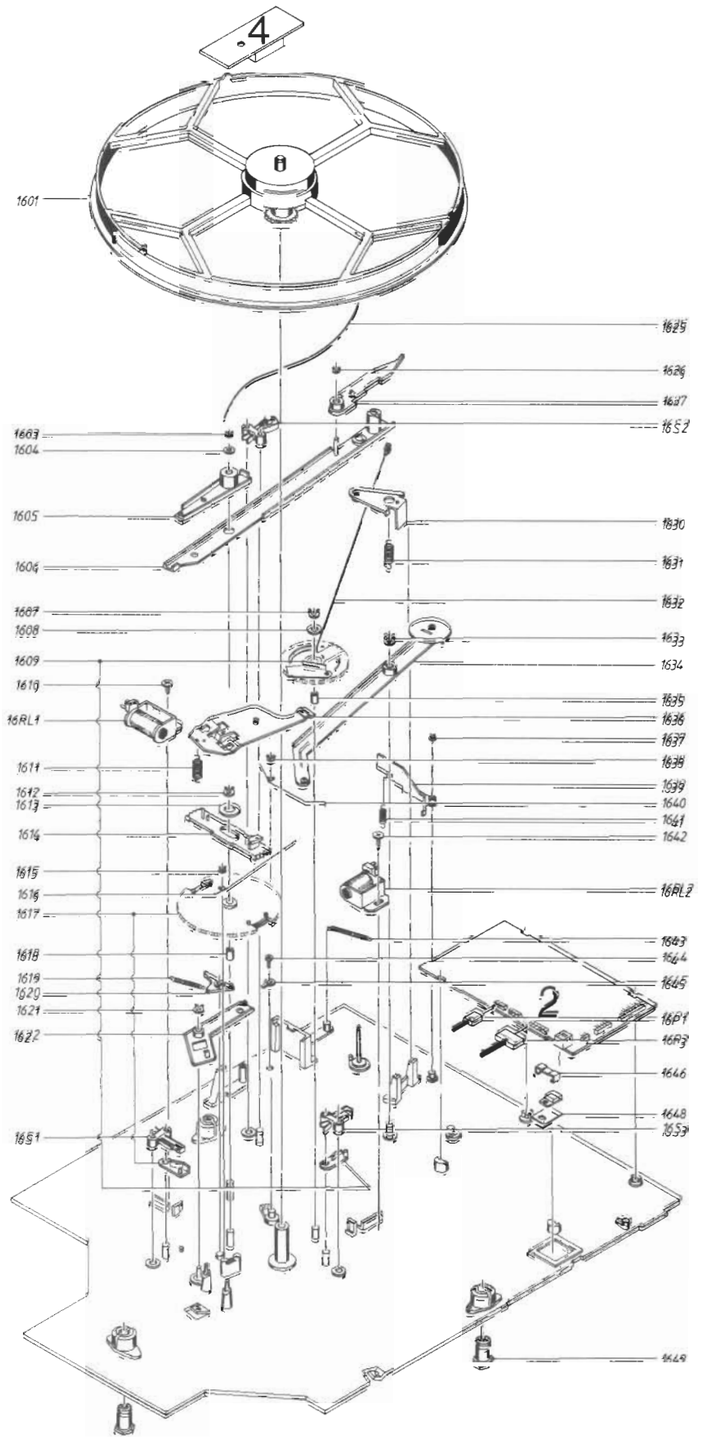


MEKANISK STYKLISTE
LIST OF MECHANICAL PARTS

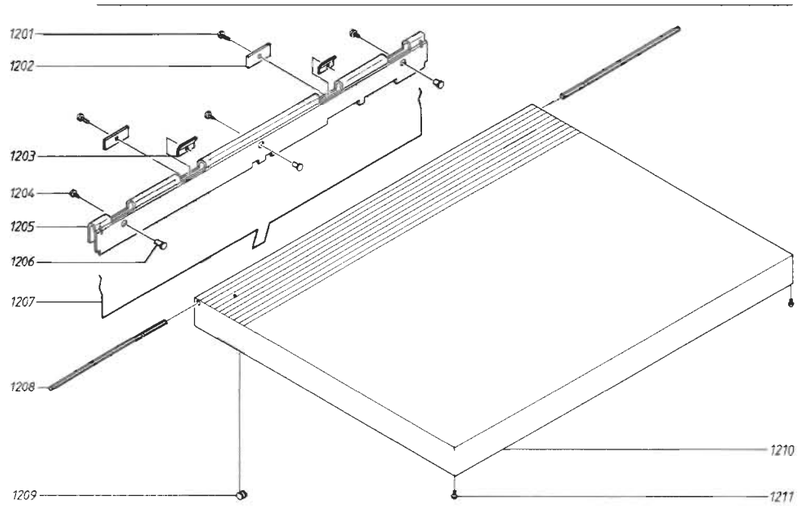
01Modul	8005076	Netdel	Power supply
0101	7500002	Holder f/sikring	Holder f/fuse
01F1	6600024	Sikring 500 mA-træg	Fuse 500 mA-slow (5811/15)
	6600033	Sikring 500 mA-træg	Fuse 500 mA-slow (5813/14)
01P5	6274039	Ledning m/stik	Wires w/socket
03Modul	2775927	Knapsæt m/print	Set of buttons w/PCB
03P7	6274099	Ledning m/stik	Wires w/socket
1001	3458435	Tonplade	Top plate
1002	3152352	Låsestykke	Lock piece
1003	3172091	Isolationsstykke	Insulating piece
1004	2043011	Skrue AM4 x 8 sort	Screw AM4 x 8 black
1005	2038087	Skrue AM3 x 16 sort	Screw AM3 x 16 black
1006	2622306	Skive 3,2	Washer 3.2
1007	2510143	Spændestykke	Clamp
1008	3170209	Isolationsstykke	Insulating piece
1009	2042036	Skrue AM4 x 16	Screw AM4 x 16
1010	2043900	Skrue AM4 x 20	Screw AM4 x 20
1011	8954890	Pickup MMC5-R	Pick-up MMC5-R
1012	2726134	Pladetallerken	Platter
1013	2622346	Dækskive	Cover disc
1014	2732057	Rem	Belt
1015	2039027	Skrue AM3 x 6 sort	Screw AM3 x 6 black
1016	2815015	Bladfjeder	Leaf spring
1017	2514035	Krog f/ophæng	Suspension hook
1018	2810141	Spændestykke	Clamp
1019	2810140	Fjeder	Spring
1020	2311019	Plastnitte	Plastic rivet
1021	2622337	Skive	Disc
1022	2013098	Skrue 2,9 x 4,5 sort	Screw 2.9 x 4.5 black
1023	2510013	Kile	Wedge
1024	6274102	Stelforbindelse	Chassis connector
1025	3414030	Kabinet	Cabinet
	2560127	Frontskinne	Front piece
1026	2039027	Skrue AM3 x 6 sort	Screw AM3 x 6 black
1027	2036016	Skrue AM2,6 x 6	Screw AM2.6 x 6
1028	2930074	Afstandsrør	Spacer
1029	2938137	Gummibøsning	Rubber bushing
1030	3124087	Holder	Holder
1031	2938197	Gummibøsning	Rubber bushing
1032	3035118	Glidesko	Rubber foot
1033	2380016	Møtrik M4	Nut M4
10M1	8406116	Motor	Motor
10P6	6274040	Ledning m/stik	Wires w/socket
10T1	8013274	Nettransformator	Mains transformer
11Modul	2850110	Pickuparm, komplet	Tonearm, complete
1101	3342083	Kontravægt	Counterweight
1103	2812094	Fjeder	Spring
1104	2070034	Gevindstift M3 x 5	Threaded pin M3 x 5
1105	2390088	Seegerring 3	Circlip 3
1106	2624007	Fjederskive 3,2	Spring washer 3.2
1107	2627011	Hjuler	Runner
1108	2627012	Justeretap	Adjustment pin

Svingchassis
Floating Chassis

02Modul	8005117	Styrekredsløb	Control circuit
04Modul	6140892	Printkort/Muting	Print/Muting
1601	2794092	Svingring	Fly-wheel
1603	2390088	Seegerring 3	Circlip 3
1604	2622338	Skive 4,1	Washer 4,1
1605	2854084	Arm	Lever
1606	2853093	Arm	Lever
	3947139	Isolationsstykke	Insulating piece
1607	2390006	Seegering 4	Circlip 4
1608	2622338	Skive 4,1	Washer 4,1
1609	3017021	Kurvehjul	Camwheel
1610	2013098	Skrue 2,9 x 4,5 sort	Screw 2.9 x 4.5 black
1611	2810132	Fjeder	Spring
1612	2390006	Seegering 4	Circlip 4
1613	2622024	Skive 4,3	Washer 4,3
1614	2700027	Tandsektion	Tooth-section
1615	2390088	Seegering 3	Circlip 3
1616	2819162	Fjeder	Spring
1617	3017022	Kurvehjul	Camwheel
1618	2950096	Bøsning	Bushing
1619	2810138	Fjeder	Spring
1620	3010019	Arm	Lever
1621	2390088	Seegering 3	Circlip 3
1622	2854086	Arm	Lever
1625	2819161	Fjeder	Spring
1626	2390088	Seegering 3	Circlip 3
1627	2854088	Arm	Lever
1630	2542612	Vippearm	Tilting lever
1631	2810133	Fjeder	Spring
1632	2570067	Stang, samlet	Connecting rod, complete
1633	2390006	Seegering 4	Circlip 4
1634	2852044	Arm	Lever
1635	2950098	Bøsning	Bushing
1636	2854085	Vippearm	Tilting lever
1637	2390088	Seegering 3	Circlip 3
1638	2390088	Seegering 3	Circlip 3
1639	2542609	Arm	Lever
1640	2819163	Fjeder	Spring
1641	2810090	Fjeder	Spring
1642	2013080	Skrue 2,9 x 5,4 sort	Screw 2.9 x 4.5 black
1643	2810139	Fjeder	Spring
1644	2013080	Skrue 2,9 x 4,5 sort	Screw 2.9 x 4.5 black
1645	7530005	Loddeflig	Solder tag
1646	2395043	Bronzefjeder	Bronze spring
1648	3170169	Glimmerskive	Mica sheet
1649	2380128	Gevindbøsning	Threaded bushing
16P1	6275491	Ledningssæt	Set of wires
16P3	6275491	Ledningssæt	Set of wires
16RL1	8020412	Sugespole start/stop	Solenoid start/stop
16RL2	8020412	Sugespole lower/lift	Solenoid lower/lift
16S1	7402081	Microomskifter	Micro switch
16S2	7402081	Microomskifter	Micro switch
16S3	7402081	Microomskifter	Micro switch



Støvlåg
Dust Cover



1201	2039028	Skrue AM3 x 8 sort	Screw AM3 x 8 black
1202	2628006	Fjeder	Spring
1203	2624025	Friktionsstykke	Friction piece
1204	2043007	Skrue AM4 x 6 sort	Screw AM4 x 6 black
1205	3030069	Hængsel	Hinge
1206	2384008	Gevindbøsning	Threaded bushing
1207	2819191	Torsionsfjeder	Torsion spring
1208	2830104	Aksel	Shaft
1209	2794097	Rulle	Roller
1210	3164490	Støvlåg	Dust cover
1211	3010007	Stop	Stop

Ikke viste dele
Parts Not Shown

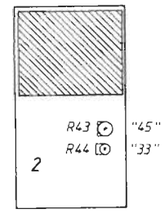
3535000	Diagram	Circuit diagram
3397443	Skumemballagesæt	Set of foam packing
3917040	Skumklods f/PU-arm	Foamblock f/PU-arm
3391251	Yderæske	Outer carton
6270253	Signalledning 5811/15	Connector 5811/15
6270254	Signalledning 5813/14	Connector 5813/14
6270255	Stelforbindelse 5813/14	Chassis connector 5813/14
6271115	Netledning 5811	Mains connector 5811
6100012	Netledning 5813	Mains connector 5813
6271119	Netledning 5814	Mains connector 5814
6271091	Netledning 5815	Mains connector 5815

JUSTERINGER

Hastighed
33 Omdr./min skal justeres først. Justeringen foretages med 2R44-45 omdr./min. justeres med 2R43.

ADJUSTMENTS

Speed
First adjust the 33 r.p.m. Adjust with 2R44 – Adjust 45 r.p.m. with 2R43.



Hastigheden kan kontrolleres på to måder:

1. Med stroboskive og en lampe tilsluttet lysnettet. Denne kontrol giver en unøjagtighed på ca. 2%, da netfrekvensen på 50 Hz afgiver ca. ±1 Hz.
2. Med stroboskive og stroboskoplampe. Denne kontrol giver en nøjagtighed, som svarer til stroboskoplampens tolerance, hvilket normalt er betydeligt bedre end netfrekvensen.

The speed can be checked in two ways:

1. With a stroboscope disc and a lamp connected to the electric mains. This check will result in an inaccuracy of approx. 2%, since the 50 Hz mains frequency fluctuates approx. ±1 Hz.
2. Use a stroboscope disc with a stroboscopic lamp. This check will result in an accuracy corresponding to the tolerance of the stroboscopic lamp, which is normally much closer than that of the electric mains.

MEKANISKE JUSTERINGER

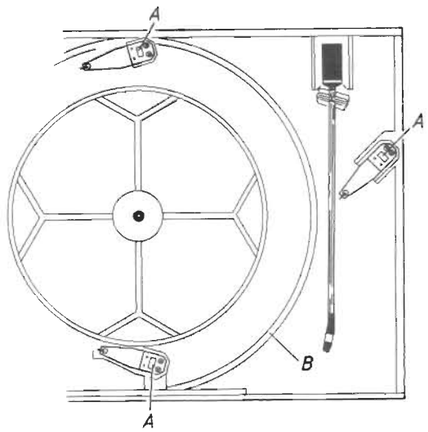
Ved mekaniske justeringer bør apparatet ikke være tilsluttet netspænding

MECHANICAL ADJUSTMENTS

The record player should not be connected to the electric mains during mechanical adjustments.

Værk højde

Turntable Height



Værkhøjden justeres indtil underkanten af pladetallerkenen ligger mellem max. 0,5 mm over, eller flugter med overkanten af skumchassiset (B) hele vejen rundt.

Justeringen foretages ved at bukke de tre vinkler, som holder ophængningsbladfjedrene. Bukningerne foretages med en skruetrækker i hullerne A.

Adjust the turntable height until the underside of the platter is approx. 0.5 mm above or is flush with the topside of the foam chassis (B) all the way round.

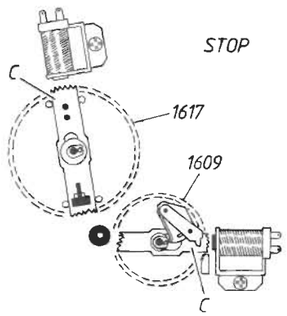
Make the adjustment by bending the three brackets which support the suspension leaf springs. Make the bends with a screwdriver inserted in the holes A.

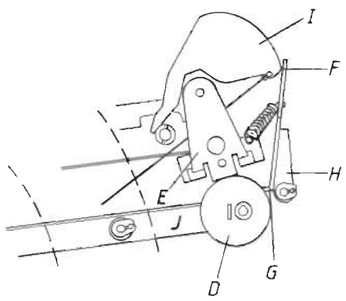
Pick-up arm hæv/sænk

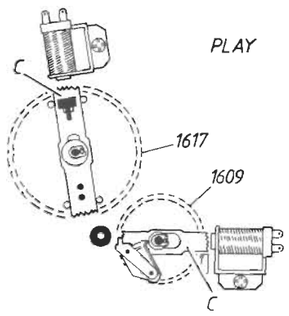
De to kurvehjul (pos. nr. 1609 og 1617) kan aktiveres ved at skubbe den tværgående midterarm C ind mod centrum og derefter dreje svingringen.

Pick-up Arm Lowering/Raising

The two camwheels (1609 and 1617) can be activated by pushing the traversing centre arm C towards the centre and then turn the fly-wheel.







Kurvehjulet 1609 stilles i stilling STOP.

Eksentrik D drejes forsigtigt indtil den netop berører vippen E, således at armen J er fri for slør.

Kurvehjulet 1609 stilles i stilling PLAY.

Afstanden mellem armen H og pick-uparmsholderen I skal være 1 mm i punktet F. Er afstanden større eller mindre end 1 mm, bukkes armen H i punktet G.

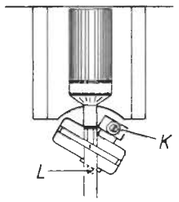
Set the camwheel 1609 in its stop position.

Turn the eccentric disc D carefully until it just touches the lever arm E, so that the arm J has no slack.

Set the camwheel 1609 in play mode.

The distance between the arm H and the pick-up arm holder I shall be 1 mm at the point F. Bend the arm H at the point G, if the distance is smaller or greater than 1 mm.

Pick-up højde



Eksentrik K drejes mod uret til stop.

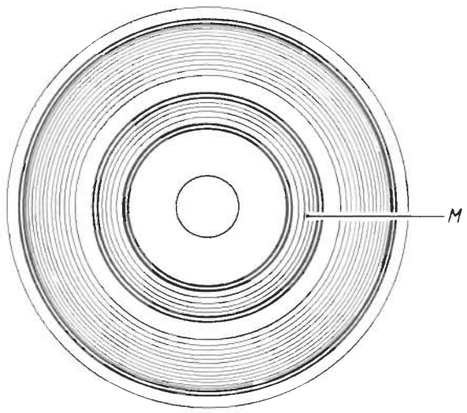
Kontravægten stilles 0,5 g under balancepunktet.

Kurvehjulet 1609 stilles i stilling STOP.

Pick-up armen føres ind over den inderste forhøjning på pladetallerkenen (punktet M).

Skruen L justeres til afstanden mellem pick-up nål og pladetallerken er 9 mm.

Pick-up Height



Turn the eccentric K anticlockwise until its stop.

Set the counterbalance weight 0.5 gram below the point of balance.

Set the camwheel 1609 in stop position.

Take the pick-up arm in over the innermost elevated section on the platter (the point M).

Adjust the screw L until the distance between the pick-up stylus and platter is 9 mm.

Kontravægten stilles 0,5 g over balancepunktet.

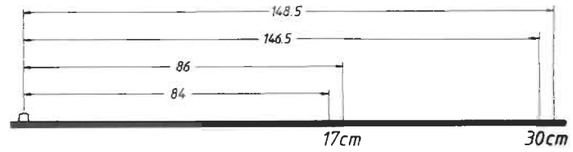
Eksentrik K drejes med uret til afstanden mellem pick-upnål og pladetallerken er 6 mm.

Set the counterbalance weight 0.5 gram above the point of balance.

Turn the eccentric K clockwise until the distance between the pick-up stylus and turntable is 6 mm.

Pick-uparm nedslag

Pick-up Arm Touch-down

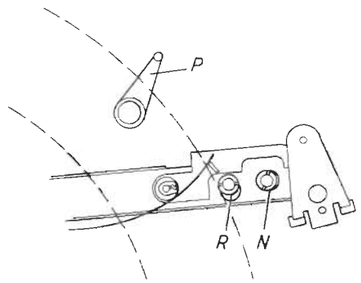


Med eksentrik N justeres til korrekt 30 cm nedslag.

Med armen P justeres til korrekt 17 cm nedslag.

Adjust with eccentric N until correct 30 cm touch-down point.

Adjust with arm P until correct 17 cm touch-down point.



Pick-uparm stopposition

Hvis justeringen foretages med svingchasiset monteret i skumchassiset, skal det bemærkes at eksentrik R er delvis skjult af skumchassiset.

Eksentrik R drejes med uret til den viste position, og drejes derefter mod uret, indtil pick-uparmen i sin stop position er parallel med chassis siden. Stop positionen kontrolleres ved at køre pick-uparmen ind og ud ved hjælp af svingringen.

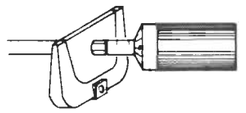
Pick-up Arm Stop Position

If the adjustment is made with the floating chassis fitted in the foam chassis, it should be noticed that the eccentric R is partly hidden by the foam chassis.

Turn eccentric R clockwise to the position shown, and then turn it anticlockwise until the pick-up arm in its stop position is parallel to the chassis side. Check the stop position by letting the pick-up arm travel in and out by means of the fly-wheel.

Pick-uparm balance

Pick-up Arm Balance



Kontravægten skrues ud eller ind til pickuparmen er i balance.

Kontravægten holdes fast, og skalaen nulstilles.

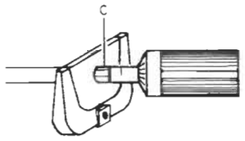
Kontravægten skrues højre om til skalaen viser det ønskede nåletryk (for MMC 5 1,5 g).

Turn the counterbalance weight in or out until the pick-up arm is in balance.

Hold the counterbalance weight firmly and zero the dial.

Turn the counterbalance weight clockwise until the required stylus pressure is indicated on the dial (for MMC5 – 1.5 gram).

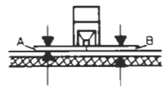
Pick-up parallelitet



Skruen C løsnes

Pickuparmen drejes til afstandene A og B er ens, og pick-up'ens plane stykke er parallel med pladens overside.

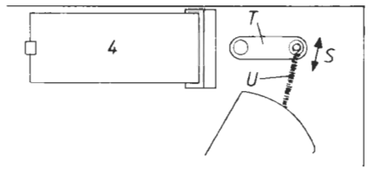
Pick-up Arm Parallelism



Loosen screw C.

Turn the pick-up arm until the clearances A and B are equal and the straight section of the pick-up arm is parallel to the topside of the record.

Antiskating



Testplade 3621045 pålægges pladetallerkenen.

Nåletryk stilles til 1,5 gram med MMC 5.

Oscillockop tilsluttes højre og venstre kanal.

Skæring 1 afspilles.

Armen T skubbes i retning S, til forvrængningen er ens i begge kanaler (ved forvrængning i venstre kanal skal fjedren U slækkes, for højre kanal skal fjederen strammes).

Antiskating

Place the test record 3621045 on the platter.

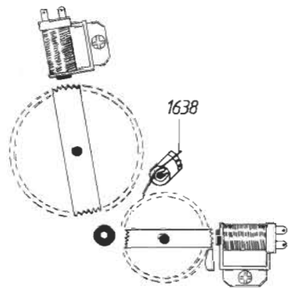
Set stylus pressure to 1.5 gram with MMC5.

Connect an oscilloscope to the RH and LH channels.

Play cut 1.

Push stud T in either direction of the arrow S until there is equal distortion in both channels (for LH channel distortion, slacken spring U, tighten for RH channel distortion).

Fjeder 1638

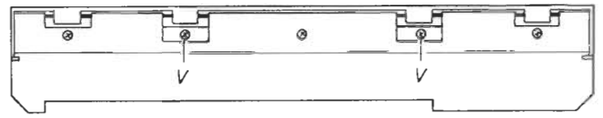


Fjeder 1638 skal altid monteres i hakket vist på skitsen.

Spring 1638

Always fit the spring 1638 in the notch as shown in the drawing.

Støvlåg



Skruerne V justeres således at støvlåget ligger til toppladen ved lukning, og ved åbning skal støvlåget kunne holde sig selv åben i en vinkel af ca. 45° med toppladen.

Dust Cover

Adjust the screws V until the dust cover is resting against the top plate when closed, and when opened it should remain open at an angle of approx. 45° with the top plate.

TECHNICAL SPECIFICATIONS

Wow and flutter, DIN	<±0.07%
Wow and flutter, WRMS	<±0.035%
Rumble weighted, DIN	>75 dB
Rumble unweighted, DIN	>55 dB
Speeds	33/45 RPM
Speed deviation	<±0.2%
Power supply	190-265V/90-130V
Power Frequency	50-60 Hz
Power consumption	<10W
Dimensions W x H x D	42 x 8 x 32.5 cm
Weight	6 kg

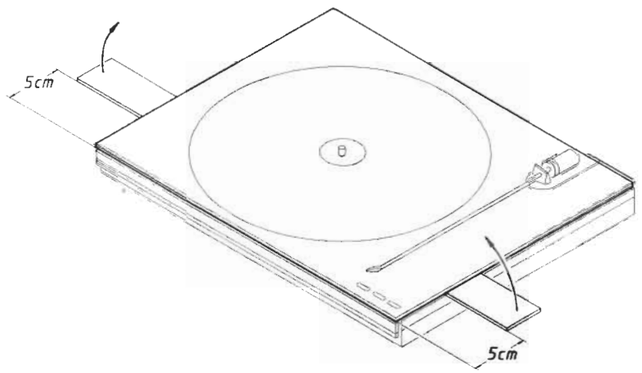
MMC5 Cartridge

Recommended tracking force	15 mN/1.5 g
Frequency range	20-20,000 Hz ±3 dB
Channel separation 1000 Hz	>20 dB
Channel separation 50-15,000 Hz	>15 dB
Channel difference	<2.5 dB
Stylus	Elliptical diamond
Cantilever	Straight alu-tube
Effective tip mass	0.5 mg
Compliance	20 µm/mN
Sensitivity mV/cm/s, RMS	>0.6 mV
Output 5 cm lateral, RMS	>2.12 mV
Cartridge weight	1.6 g

Subject to change without notice

Topplade, keyboard

Top Plate, Keyboard



En skarp og bred genstand presses ind mellem topplade og chassis ca. 5 cm fra forkanten. Toppladen kan nu vippes ud af snaplåsene.

Toppladen løftes op i forkanten, stikket på keyboard ledningerne frigøres at styreprintet, PLAY-STOP kontakten tages op af skumchassiset, og toppladen trækkes fri af apparatet.

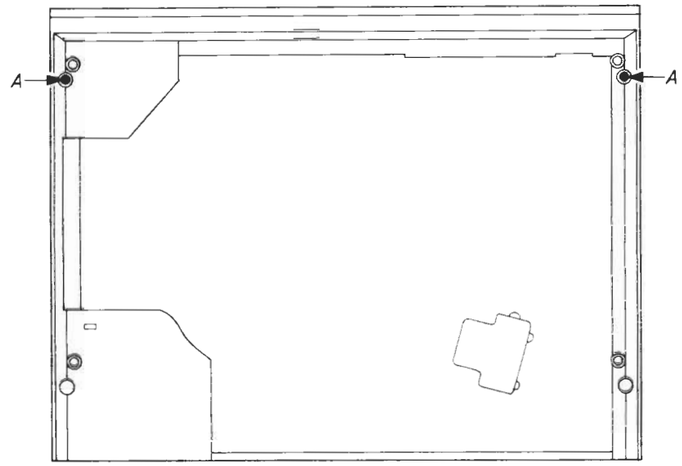
A sharp and wide object is pressed between top plate and chassis, approx. 5 cm from the front edge. The top plate can now be tipped out of the spring catches.

Lift the top plate at its front edge, remove the plug on the keyboard wires from the control PCB, remove the PLAY-STOP switch from the foam chassis, and pull the top plate away from the record player.

ADSKILLELSE

For at undgå beskadigelse af pick-upen, bør denne aftages før adskillelse af apparatet.

Topplade, keyboard



Skruerne A aftages.

Toppladen løftes op i forkanten, stikket på keyboard ledningerne frigøres af styreprintet, PLAY-STOP kontakten tages op af skumchassiset, og toppladen trækkes fri af apparatet.

Svingchassis

Fjedrene B aftages. *NB! ved samling af apparatet skal hver fjeder placeres på den samme position som før adskillelse for at opnå korrekt ophæng.*

Fjeder C aftages.

Skruen D løsnes, og vinklen E drejes mod uret, således at signalledningen går løs.

DISMANTLING

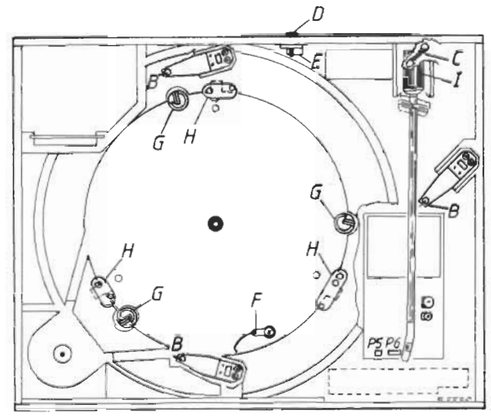
In order to safeguard against damage to the pick-up, always remove it prior to dismantling.

Top Plate, Keyboard

Remove the screws A.

Lift the top plate at its front edge, remove the plug on the keyboard wires from the control PCB, remove the PLAY-STOP switch from the foam chassis, and pull the top plate away from the record player.

Floating Chassis



Remove the springs B. *Note: when re-assembling the record player, be sure to fit each spring in its original position to ensure correct suspension.*

Remove spring C.

Loosen the screw D, and turn the bracket E anticlockwise so that the signal wire becomes loose.

Stelledningen F afloddes.

De 3 stop G drejes 1/4 omdrejning med uret.

Rem og svingring aftages.

Aftag stikkene for motor (P6) og netdel (P5).

Drej de 3 arme H mod centrum.

Løft forsigtigt i skumchassisets forkant indtil skumchassiset rører kontravægten (i punktet I).

Skub forsigtigt skumchassiset bagud indtil løbeværket er frigjort af skumchassiset.

NB! Husk at montere fjeder C ved samling af apparatet.

Unsolder the chassis wire F.

Turn the 3 stops G 1/4 turn clockwise.

Remove belt and fly-wheel.

Remove the sockets for motor (P6) and power supply (P5).

Turn the 3 arms H towards the centre.

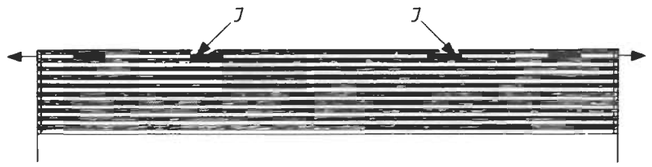
With care, lift at the front edge of the foam chassis until it touches the counterbalance weight (at the point I).

With care, push the foam chassis backwards until the floating chassis is released from the foam chassis.

Note: Remember to fit spring C when re-assembling the record player.

Støvlåg

Dust Cover



En skruetrækker placeres i slidserne J som vist på skitsen.

De 2 aksler, som holder støvlåget, kan nu bankes ca. 1 cm ud med en hammer. Akslerne trækkes helt ud med en fladtang.

Place a screwdriver in the slots J as shown in the drawing.

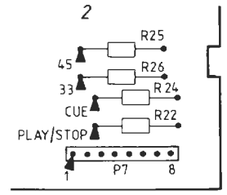
The 2 shafts which hold the dust cover, can now be hammered approx. 1 cm outwards. Remove the shafts completely by using a pair of flat nippers.

SERVICETIPS

Operation uden keyboard

SERVICE TIPS

Operation Without Keyboard



Under service kan apparatet betjenes uden at keyboard er monteret. Dette gøres ved at kortslutte P7 ben 1 til en modstand alt efter hvilken funktion der ønskes.

It is possible, during a service job, to operate the record player without having the keyboard fitted. This is done by short-circuiting pin 1 of P7 to a resistor, as required according to the function wanted.

Operation uden pladetallerken

Ved operation uden plade/pladetalllerken skal det bemærkes at det store kurvehjul (pos. 1617) ikke kører helt tilbage i sin stop position.

Operation Without Platter

It should be noticed that when the record player is operated without a record/platter, the large camwheel (pos. 1617) will not return completely to its stop position.

ISOLATIONSTEST

Ethvert apparat **skal** isolationstestes efter det har været adskilt. Testen udføres når apparatet igen er helt samlet og klar til udlevering til kunden (med transportskruerne spændte).

Isolationstesten udføres på følgende måde:

De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren.

Pladetallerkenen aftages.

Den anden terminal fra isolationstesteren tilsluttes den ene af de tre transportsikringsskruer.

OBS!
For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren til en spænding på 1,5 – 2 KV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

Der må ikke på noget tidspunkt under testen forekomme overslag.

INSULATION TEST

Each record player **must** be insulation tested after having been dismantled. The test is to be made when the record player has been reassembled completely and is ready for delivery to the customer (with the transit screws tightened).

Make the insulation test as follows:

Short-circuited the two pins of the mains plug and connect one of the terminals to the insulation tester.

Remove the turntable.

Connect the other terminal of the insulation tester to one of the three transit screws.

NOTE!
To avoid ruining the record player it is essential that both insulation tester terminals are in really good mechanical contact.

Now slowly turn the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Hold it there for 1 second, then turn the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

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Isolationstesten udføres på følgende måde:

De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren.

Den anden terminal fra isolationstesteren tilsluttes metallet af centerakselen på svingringen.

OBS!
For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren til en spænding på 1,5 – 2 kV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

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Make the insulation test as follows:

Short-circuit the two pins of the mains plug and connect one of the terminals to the insulation tester.

Connect the other terminal from the insulation tester to the metal part of the center shaft of the fly wheel.

NOTE!
To avoid ruining the record player it is essential that both insulation tester terminals are in really good mechanical contact.

Now slowly turn the voltage control of the insulation tester until a voltage of 1.5 – 2 kV is obtained. Hold it there for 1 second, then turn the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

Bang&Olufsen

10-84

3538610

Beogram RX-2

Type 5831 - 5833 - 5835
Supplement for
Beogram 1800, 2000, 5000

SERVICEANVISNING
SERVICE MANUAL
SERVICE ANLEITUNG

PASTE INTO SERVICE MANUAL BEOGRAM 1800, 2000, 5000, TYPE 583X

Introduktion

Dette tillæg indeholder diagram og mekanisk samt elektrisk stykliste for Beogram RX-2, type 583X. Der gælder samme justeringsvejledning samt adskillelsesvejledning for Beogram RX-2 som f.eks. for Beogram 1800.

Dette er samtidig et supplement til tidligere udsendte serviceanvisning til Beogram 1800, 2000, 5000.

På side 10-9 findes pakkeprocedure samt smøreskema.

På side 10-9 findes et rettelsesskema. Dette skema indeholder de ændringer der er indført i produktionen, samt fra hvilket apparatnummer ændringen er indført.

Introduction

This supplement includes diagram and mechanical as well as electrical parts list for Beogram RX-2, type 583X. Adjustment procedure as well as disassembly instructions for Beogram RX-2 are identical to those of e.g. Beogram 1800.

At the same time this is a supplement for previously issued service manual for Beogram 1800, 2000, 5000.

Page 10-9 contains packing procedure as well as lubrication chart.

Page 10-9 is a correction survey. This survey includes the modifications introduced in the production, as well as the serial nos as from which the modifications were made.

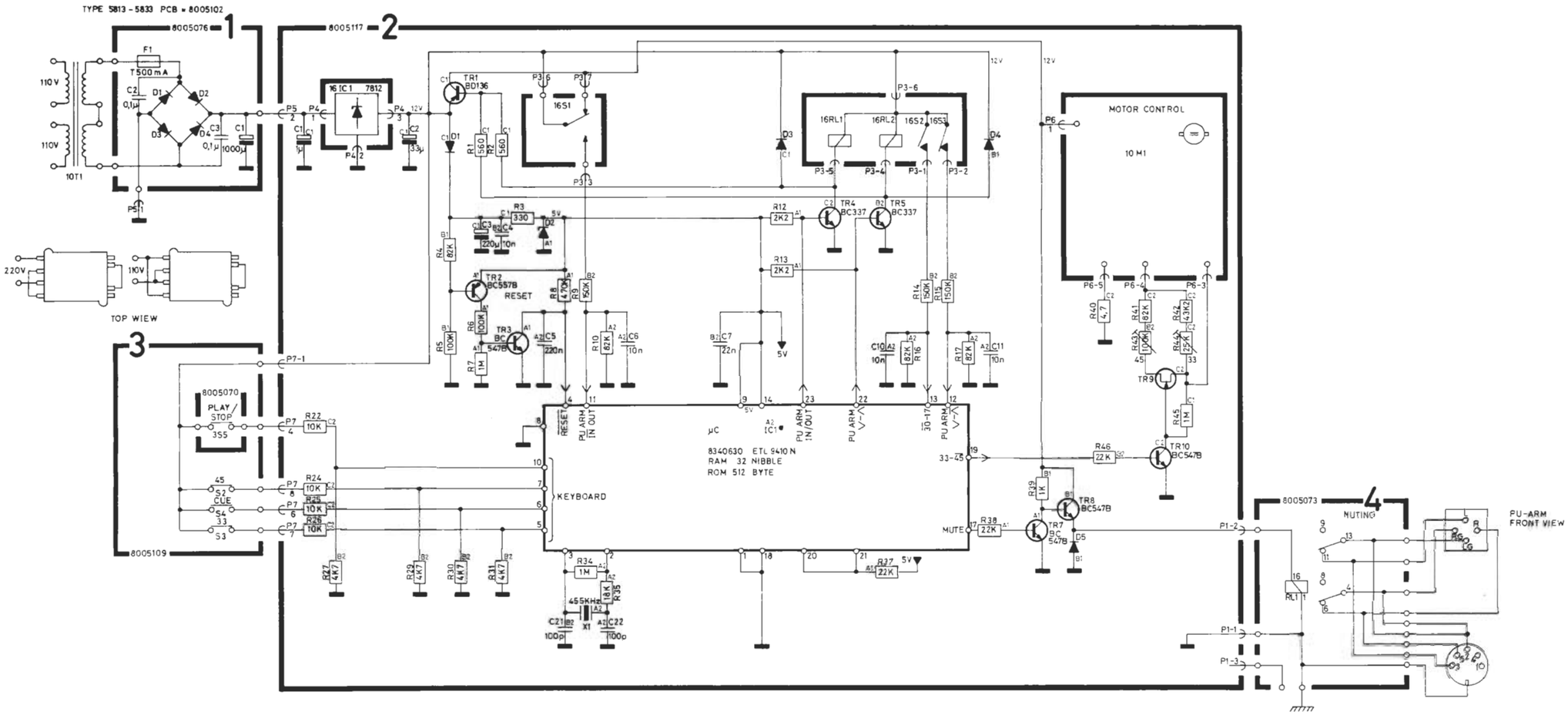
Introduktion

Dieser Nachtrag enthält Diagramm sowie mechanische und elektrische Stückliste für Beogram RX-2, Typ 583X. Justieranleitung sowie Zerlegungsanleitung für Beogram RX-2 sind identisch mit denen von z.B. Beogram 1800.

Dieser Nachtrag ist gleichzeitig ein Supplement zur früheren ausgesandten Serviceanleitung für Beogram 1800, 2000, 5000.

Seite 10-9 des Nachtrags enthält Verpackungsanweisung sowie Schmierplan.

Seite 10-9 ist eine Korrektionsübersicht. Diese Übersicht enthält die Änderungen die in der Produktion eingeführt worden sind, sowie die Gerätenr. von denen sie eingeführt wurden.

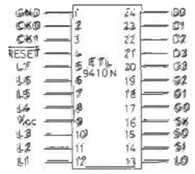


ACTIVATE	PLAY - STOP			CUE		CUE		PLAY - STOP			CUE		CUE			RUN OFF STOP	
17cm record on turntable	PU in 2.7-3sec	PU down 1.8sec	Playing	PU up 1.8sec	Pause	PU down 1.8sec	Playing	PU up 1.8sec	PU out 2.7sec	Stop	PU in 2.7-3sec	PU down 1.8sec	PU down 1.8sec	Playing	PU up 1.8sec	PU out 2.7sec	Stop
PU arm in/out output ((16RL1)	PIN 23																
30/17 cm. input ((16S2)	* PIN 13																
PU arm in/out input ((16S1)	PIN 11																
Lift/lower output ((16RL2)	PIN 22																
Lift/lower input ((16S3)	PIN 12																

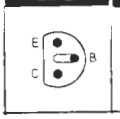
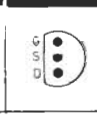
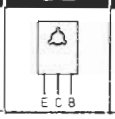
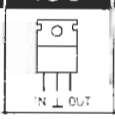
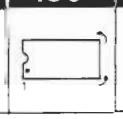
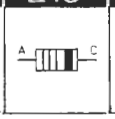
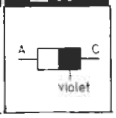
* PIN 13 is constant low with 30 cm. record

Explanation of the fuse symbols used in the set:

T500mA 250 V — Replace with same type 500 mA-250 V Slow acting fuse.



SEMI - CONDUCTORS.

20	24	32	105	136	209	215	217
							

Transistors

2TR1	8320240*	**32**	BD 136/W	2TR6-8	8320097	**20**	BC 547B
2TR2	8320152	**20**	BC 557B	2TR9	8320396*	**24**	MPF 4392
						24	2N 5630
2TR3	8320097	**20**	BC 547B			**24**	2N 4392
2TR4-5	8320295	**20**	BC 337-25/18	2TR10	8320097	**20**	BC 547B

IC's

2IC1	8340630	**136**	ETL 9410N	16IC1	8340049	**105**	7812C
						105	LM 340T-12
						105	uA 7812Cu
						105	MC 7812

Diodes.

1D1-D4	8300023	**209**	1N4002	2D3-D7	8300058	**209**	1N4148
		209	1N4003			**217**	SFD 184
						215	1N4148
2D1	8300058	**209**	1N4148				
		217	SFD 184	3D1	8330074		V 330 PA
		215	1N4148				LED red
2D2	8300169	**209**	ZPV 5V1				
		209	BZX 79 C5V1				
		209	BZX 83 C5V1				

* Speciel udvalgt eller bearbejdet eksemplar.
* Specially selected or adapted sample.
* Speziell ausgewähltes und bearbeitetes Exemplar.

LIST OF ELECTRICAL PARTS.

Resistors not mentioned are standard 5% 1/4W.

Power Supply, 8005076-PCB 1.

C1	4200388	1000 µF 35V	F1	6600024	500 mA. - Slow
C2	4130224	100 nF 10% 63V		6600033	500 mA. - Slow (5833)
C3	4130224	100 nF 10% 63V			

Control Circuit 8005117-PCB 2.

R40	5020501	4.7 Ω 5% 1W	R43	5370128	100 kΩ 20%
R42	5020132	43.2 kΩ 1% 1/4W	R44	5370068	25 kΩ 20%

C1	4200512	1 µF 50V	C7	4010107	22 nF 20+100% 40V
C2	4200551	33 µF 16V	C10	4010106	10 nF 20+80% 40V
C3	4200396	220 µF 16V	C11	4010106	10 nF 20+80% 40V
C4	4010106	10 nF 20+80% 40V	C21	4000139	100 pF 5% 63V
C5	4130233	0.22 µF 20% 63V	C22	4000139	100 pF 5% 63V
C6	4010106	10 nF 20+80% 40V			

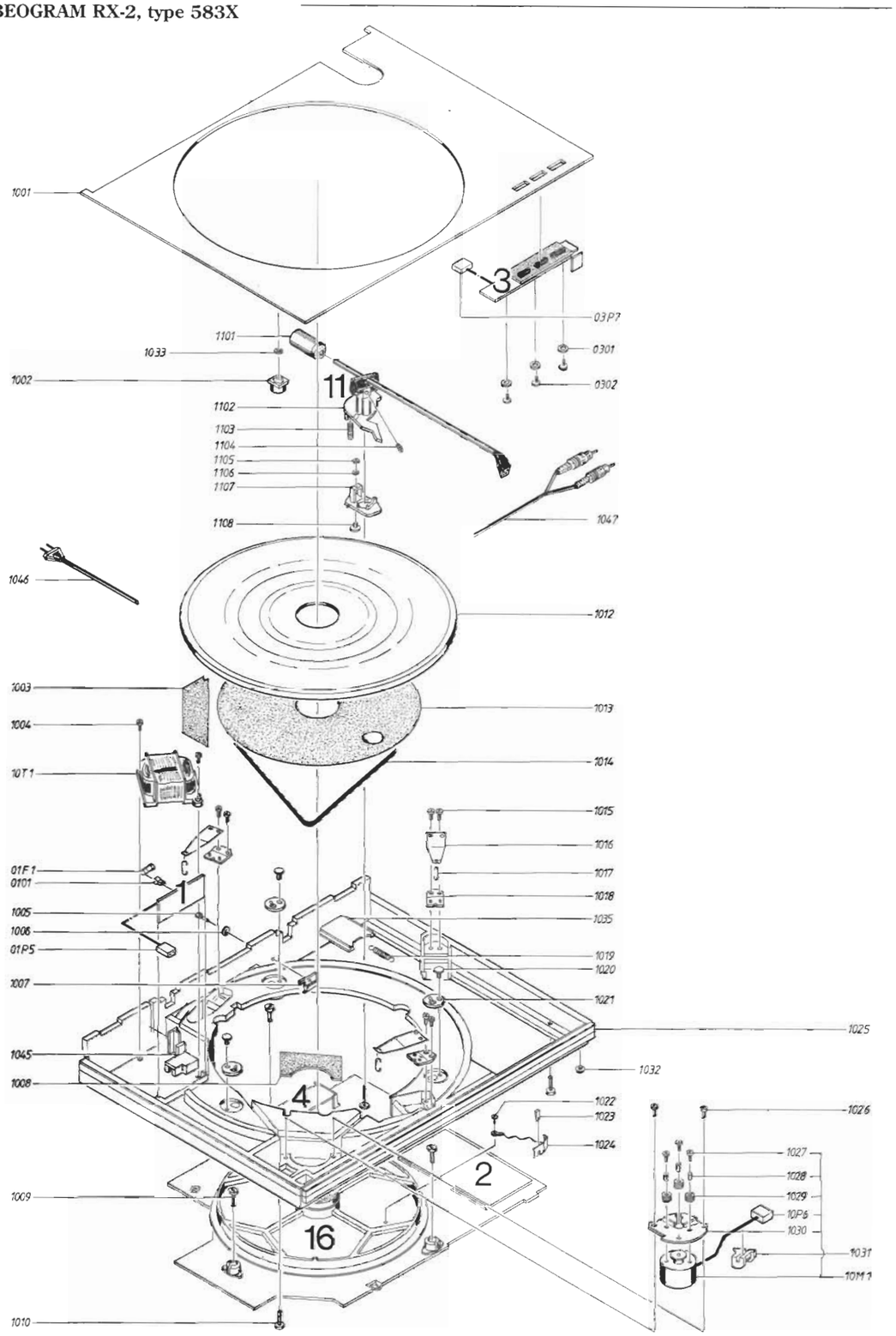
P1	7220285	Plug 3 pins	P5	7220279	Plug 2 pins
P3	7220286	Plug 7 pins	P6	7220114	Plug 5/4 pins
P4	7210020	Socket 3 pins	P7	7220130	Plug 8/7 pins

X1	8030024	455 kHz ± 1kHz

Muting-PCB 4.

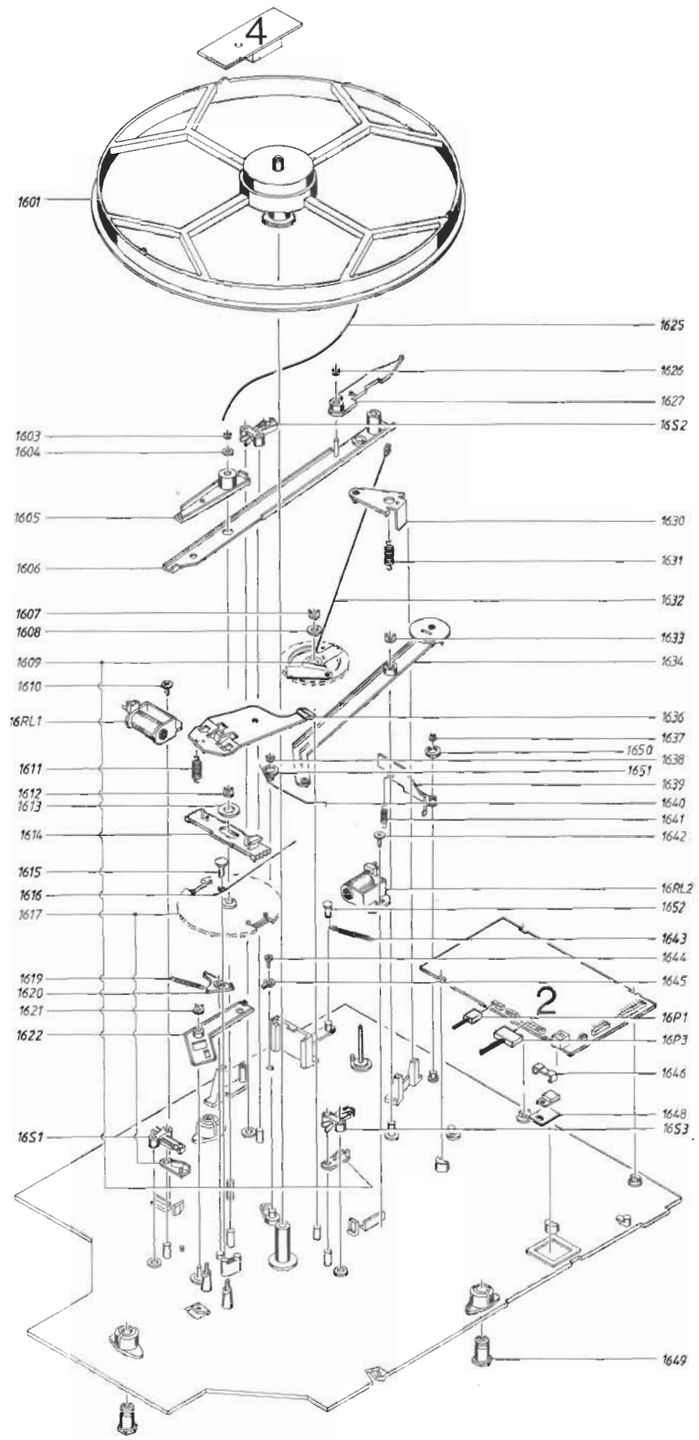
RL1	7600059	Relay 12V

BEOGRAM RX-2, type 583X

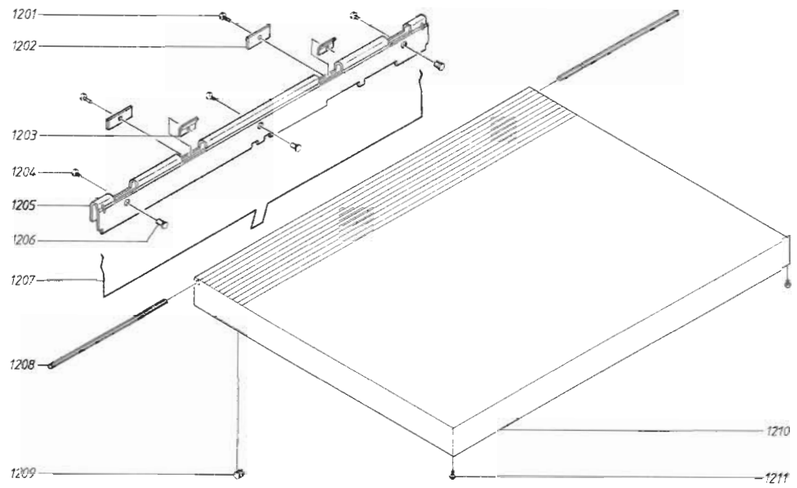


MEKANISK STYKLISTE		MECHANICAL PARTS LIST		MECHANISCHE STÜCKLISTE
01Modul	8005076	Netdel	Power supply	Netzteil
0101	7500002	Holder f. sikring	Holder f. fuse	Halter f. Sicherung
01F1	6600024	Sikring 500 mA-træg (5831/35)	Slow action fuse 500 mA (5831/35)	Sicherung 500 mA träge (5831/35)
	6600033	Sikring 500 mA-træg (5833)	Slow action fuse 500 mA (5833)	Sicherung 500 mA träge (5833)
01P5	6274039	Ledning med stik	Cable with plug	Leitung mit Stecker
03Modul	2776023	Knapsæt med PCB	Set of buttons with PCB	Knopfsatz mit PCB
0301	2622015	Skive 3,2	Washer 3.2	Scheibe 3,2
0302	2013098	Skrue 2,9x4,5	Screw 2.9x4.5	Schraube 2,9x4.5
03P7	6274493	Ledning med stik	Cable with plug	Leitung mit Stecker
1001	3458394	Topplade	Top plate	Topplatte
1002	3152352	Låsestykke	Locking piece	Verriegelungsstück
1003	3300106	Isolationsstykke	Insulation piece	Isolationsstück
1004	2015110	Skrue 3,5x13 sort	Screw AM 3.5x13 black	Schraube AM 3.5x13 schwarz
1005	2038087	Skrue AM 3x16 sort	Screw AM 3x16 black	Schraube AM 3x16 schwarz
1006	2622015	Skive 3,2	Washer 3.2	Scheibe 3,2
1007	2510143	Spændestykke	Clamp	Spannstück
1008	3170209	Isolationstykke	Piece of insulation	Isolierstück
1009	2042216	Skrue AM 4x16	Screw AM 4x16	Schraube AM 4x16
1010	2043900	Skrue AM 4x20	Screw AM 4x20	Schraube AM 4x20
1012	2726134	Pladetallerken	Platter	Plattenteller
1013	2622359	Dækskive	Cover plate	Abdeckscheibe
1014	2732057	Rem	Belt	Riemen
1015	2015106	Skrue 3,5x10 sort	Screw AM 3.5x10 black	Schraube AM 3,5x10 schwarz
1016	2815015	Bladfjeder	Leaf spring	Blattfeder
1017	2514035	Krog f. ophængning	Hook for suspension	Haken für Aufhängung
1018	2510141	Spændestykke	Clamp	Spannstück
1019	2810140	Fjeder	Spring	Feder
1020	2311019	Plastnitte	Plastic rivet	Plastniet
1021	2622337	Skive	Washer	Scheibe
1022	2013014	Skrue 2,9x4,5 sort	Screw 2.9x4.5 black	Schraube 2,9x4,5 schwarz
1023	2500013	Kile	Wedge	Keile
1024	6274102	Stelforbindelse	Earth connection	Masseverbindung
1025	3414360	Kabinet grå metalic	Cabinet grey metallic	Gehäuse grau metallisch
	2560177	Frontskinne	Front rail	Frontschiene
1026	2015106	Skrue 3,5x10 sort	Screw AM 3.5x10 black	Schraube AM 3,5x10 schwarz
1027	2036016	Skrue AM 2,6x6	Screw AM 2.6x6	Schraube AM 2,6x6
1028	2930074	Afstandsrør	Spacer	Distanzrohr
1029	2938137	Gummibøsning	Rubber bushing	Gummibuchse
1030	3124087	Holder	Holder	Halter
1031	2938197	Gummibøsning	Rubber bushing	Gummibuchse
1032	3035026	Glidesko	Plastic foot	Gleitschützer
1033	2380016	Møtrik M4	Nut M4	Mutter M4
1035	3458270	Plade	Plate	Platte
1045	2550017	Plastbøjle (5831/33)	Plastic clamp (5831/33)	Plastikbügel (5831/33)
1046	6271102	Netledning 5831	Mains cable 5831	Netzleitung 5831
	6100012	Netledning 5833	Mains cable 5833	Netzleitung 5833
	6271091	Netledning 5835	Mains cable 5835	Netzleitung 5835
1047	6270254	Signalledning	Signal cable	Signalleitung
10M1	8400110	Motor	Motor	Motor
10P6	6274040	Ledning m. stik	Cable with plug	Leitung m. Stecker
10T1	8013274	Nettransformator	Mains transformer	Netztransformator
11Modul	2850126	Pickup arm kompl.	Tone arm complete	Tonarm kompl.
1101	3342083	Kontravægt	Counter weight	Gegengewicht
1102	2908101	Leje f. pickup arm	Bearing for tone arm	Lager für Tonarm
1103	2812094	Fjeder	Spring	Feder
1104	2070934	Gevindstift M 3x6	Threaded pin M 3x6	Gewindestift M 3x6
1105	2390088	Seegerring 3	Circlip 3	Sicherungsring 3
1106	2624007	Fjederskive 3,2	Spring washer 3.2	Federscheibe 3,2
1107	2627011	Holder	Holder	Halter
1108	2627012	Justertap	Adjustment tap	Justierzapfen

Svingchassis		Floating chassis		Schwungchassis
02Modul	8005117	Styrekredsløb	Control circuit	Steuerungsschaltung
04Modul	6140892	Printkort/Muting	Print chart/muting	Printkarte/Muting
1601	2794092	Svingring	Flywheel	Schwungring
1603	2390088	Seegerring 3	Circlip 3	Sicherungsring 3
1604	2622338	Skive 4,1	Washer 4,1	Scheibe 4,1
1605	2854084	Arm	Arm	Arm
1606	2853093	Arm	Arm	Arm
	3947139	Isolationstykke	Insulation piece	Isolierstück
1607	2390006	Seegerring 4	Circlip 4	Sicherungsring 4
1608	2622388	Skive 4.1	Washer 4.1	Scheibe 4.1
1609	3017021	Kurvehjul	Camwheel	Kurvenrad
1610	2013098	Skrue 2,9x4,5 sort	Screw 2.9x4.5 black	Schraube 2,9x4,5 schwarz
1611	2810132	Fjeder	Spring	Feder
1612	2390006	Seegerring 4	Circlip 4	Sicherungsring 4
1613	2622024	Skive 4,3	Washer 4.3	Scheibe 4,3
1614	2700027	Tandsektion	Tooth section	Zahnsektion
1615	2364044	Nitte	Rivet	Niet
1616	2819162	Fjeder	Spring	Feder
1617	3017022	Kurvehjul	Camwheel	Kurvenrad
1619	2810138	Fjeder	Spring	Feder
1620	3010019	Arm	Arm	Arm
1621	2390088	Seegerring 3	Circlip 3	Sicherungsring 3
1622	2854086	Arm	Arm	Arm
1625	2819161	Fjeder	Spring	Feder
1626	2390088	Seegerring 3	Circlip 3	Sicherungsring 3
1627	2854088	Arm	Arm	Arm
1630	2542612	Vippearm	Tilting lever	Kipphebel
1631	2810133	Fjeder	Spring	Feder
1632	2570067	Stang samlet	Rod complete	Stange kompl.
1633	2390006	Seegerring 4	Circlip 4	Sicherungsring 4
1634	2852044	Arm	Arm	Arm
1636	2854085	Vippearm	Tilting lever	Kipphebel
1637	2390088	Seegerring 3	Circlip 3	Sicherungsring 3
1638	2390088	Seegerring 3	Circlip 3	Sicherungsring 3
1639	2542609	Arm	Arm	Arm
1640	2819163	Fjeder	Spring	Feder
1641	2810090	Fjeder	Spring	Feder
1642	2013098	Skrue 2,9x4,5 sort	Screw 2.9x4.5 black	Schraube 2,9x4,5 schwarz
1643	2810139	Fjeder	Spring	Feder
1644	2013098	Skrue 2,9x4,5 sort	Screw 2.9x4.5 black	Schraube 2,9x4,5 schwarz
1645	7530005	Loddeflig	Soldering tag	Lötfahne
1646	2393043	Bronzefjeder	Bronze spring	Bronzefeder
1648	3170169	Glimmerskive	Mica sheet	Glimmerscheibe
1649	2380128	Gevindbøsning	Threaded bushing	Gewindebuchse
1650	2624007	Skive 3,2	Washer 3.2	Scheibe 3,2
1651	2622041	Skive 3,2	Washer 3.2	Scheibe 3,2
1652	2364044	Nitte	Rivet	Niet
16P1	6275491	Ledningssæt	Set of wires	Leitungssatz
16P3	6275491	Ledningssæt	Set of wires	Leitungssatz
16RL1	8020412	Sugespole start/stop	Magnet coil start/stop	Saugspule Start/Stop
16RL2	8020412	Sugespole lower/lift	Magnet coil lower/lift	Saugspule Lower/Lift
16S1	7402081	Microomskifter	Micro switch	Microumschalter
16S2	7402081	Microomskifter	Micro switch	Microumschalter
16S3	7402081	Microomskifter	Micro switch	Microumschalter



Støvlåg — Dust cover — Abdeckhaube

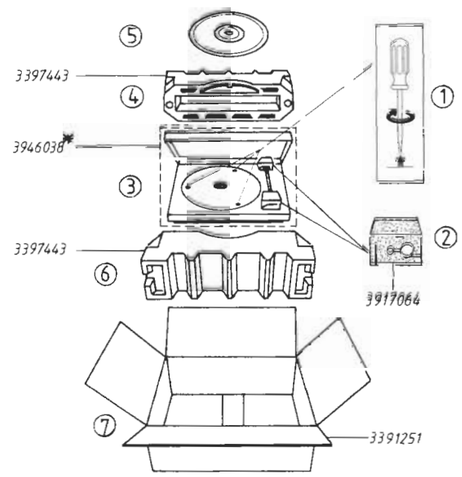


1201	2039028	Skrue AM 3x8 sort	Screw AM 3x8 black	Schraube AM 3x8 schwarz
1202	2628006	Fjeder	Spring	Feder
1203	2642025	Friktionsstykke	Friction piece	Friktionsstück
1204	2043007	Skrue AM 4x6 sort	Screw AM 4x6 black	Schraube AM 4x6 schwarz
1205	3030069	Hængsel	Hinge	Scharnier
1206	2384008	Gevindbøsning	Treaded bushing	Gewindebuchse
1207	2819191	Torsionsfjeder	Torsion spring	Torsionsfeder
1208	2830104	Aksel	Shaft	Achse
1209	2794097	Rulle	Roller	Rolle
1210	3164490	Støvlåg	Dust cover	Abdeckhaube
1211	3010007	Stop	Stop	Anschlag

Ikke viste dele — Parts not shown — Nicht gezeigte Teile

3397443	Skumemballage, sæt	Foam packing, set	Schaumverpackung, Satz
3391251	Yderæske	Outer carton	Aussenkarton
3390261	Pose f. støvlåg	Bag for dust cover	Beutel f. Abdeckhaube
3917064	Skumplast klods	Foam block	Schaumklotz

PAKKE PROCEDURE — PACKING PROCEDURE — VERPACKUNGSANWEISUNG



*** Folie 3946038 leveres i metermål**

*** Folie 3946038 is solde by the metre**

*** Folie 3946038 wird in Meter geliefert**

Smøreskema — Lubrication Chart — Schmierplan

Behovet for eftersmøring er minimalt.
Ved større eftersyn og ved udskiftning af mekaniske dele bør nedenstående retningslinier følges.
NB! Smøremidlet bør kun påføres i lille mængde.

The need for relubrication is negligible.
In the case of overhauls and when replacing mechanical parts the directions below should be followed.
NB! The lubricant should only be aplied in small quantities.

Der nachträgliche Schmierbedarf ist minimal.
Bei grösseren Inspektionen und beim Austausch von mechanischen Teilen sollten die nachstehenden Richtlinien befolgt werden.
WICHTIG! Das Schmiermittel darf nur in geringer Menge aufgetragen werden.

Smørested	Point of lubrication	Schmierstelle	Smøremiddel/ Lubricant/ Schmiermittel
Svingchassis: Påføres tappe for fastgørelse af kurvehjul pos. 1609 og pos. 1617. Støbning for glideflade mod tap på arm pos. 1606. Glideflade mod holder pos. 1107. Aksel for fastgørelse af pickup arm: Påføres spids af aksel.	Floating chassis: Apply to taps for fastening of camwheels pos. 1609 and pos. 1617. Moulding for sliding surface towards tap for arm pos. 1606. Sliding surface towards holder pos. 1107. Shaft for fastening of tone arm: Apply to tip of shaft.	Schwungchassis: Befestigungszapfen für Kurvenräder Pos. 1609 und Pos. 1617. Gusstelle für Gleitfläche gegen Zapfen auf Arm Pos. 1606. Gleitfläche gegen Halter Pos. 1107. Achse zur Befestigung von Tonarm: Spitze der Achse.	3984030 Barrierta L55/2 (25 gr)
Bronzeplade på kurvehjul pos. 1609: Glideflade mod underlag.	Bronze plate of camwheel pos. 1609: Sliding surface towards base.	Bronzeplatte auf Kurvenrad Pos. 1609: Gleitfläche gegen Unterlage.	Barrierta IS Fluid
Holder pos. 1107: Glideflade mod vippearm pos. 1630.	Holder pos. 1107: Sliding surface towards tilting lever pos. 1630.	Halter Pos. 1107: Gleitfläche gegen Kipphebel Pos. 1630.	Kilopoise 1016S
Svingring pos. 1601: Påføres aksel.	Fly wheel pos. 1601: Apply to shaft.	Schwungring Pos. 1601: Achse	3984008 M4 olie/oil/Öl

RETTELSESSKEMA, Beogram 1800, 2000, 5000
CORRECTION SURVEY, Beogram 1800, 2000, 5000
KORREKTIONSÜBERSICHT, Beogram 1800, 2000, 5000

POS.NO	BEFORE	AFTER	DK	GB	D	SET NO.
2IC1	8340455	8340630	ETL 9410N	ETL 9410N	ETL 9410 N	3049001
2R35	5010040	5010135	18kΩ 5% 1/4W	18kΩ 5% 1/4W	18kΩ 5% 1/4 W	3062001
2C2		4130224	100nF 10% 63V	100nF 10% 63V	100nF 10% 63V	2920001
2C3		4130224	100nF 10% 63V	100nF 10% 63V	100nF 10% 63V	2920001
1001	3458275	3458320	Topplade 580x med 03 modul	Top plate 580x with 03 Modul	Topplatte 580x mit 03 Modul	all
	3458435	3458392	Topplade 581x med 03 modul	Top plate 581x with 03 Modul	Topplatte 581x mit 03 Modul	all
	3458314	3458391	Topplade 582x med 03 modul	Top plate 582x with 03 Modul	Topplatte 582x mit 03 Modul	all
1003	3172091	3300106	Isolationsstykke	Insulation price	Insolationsstück	3392001
1004	2043011	2015110	Skrue 3,5x12	Screw 3.5x13	Schraube 3,5x13	3040001
1013	2622346	2622359	Dækskive	Cover plate	Abdeckscheibe	2863001
1015	2039027	2015106	Skrue AM3,5x10	Screw AM3.5x10	Schraube AM3,5xx10	3040001
1018	2810141	2510141	Spændestykke	Clamp	Spannstück	all
1023	2510013	2500013	Kile	Wedge	Keile	all
1026	2039027	2515106	Skrue AM3.5x10	Screw AM3.5x10	Schraube AM3,5x10	3040001
1035		3458270	Plade	Plate	Platte	all
1045		2550017	Plastbøjle	Plastic clamp	Plastikbügel	3089001
1046		6271102	Netledning EU	Mains cable EU	Netzleitung EU	all
		6100012	Netledning US	Mains cable US	Netzleitung US	all
		6271091	Netledning AUS	Mains cable AUS	Netzleitung AUS	all
1047		6270254	Signalledning	Signal cable	Signalleitung	all
1048		2622015	Skive 3,2	Washer 3.2	Scheibe 3.2	2872001
1049		2013098	Skrue 2,9x4,5	Screw 2.9x4.5	Schraube 2,9x4,5	2872001
1615	2390088	2364044	Nitte	Rivet	Niet	2945001
1618	2950096		Bøsning	Bushing	Buchse	2970001
1635	2950098		Bøsning	Bushing	Buchse	2970001
1642	2013080	2013098	Skrue 2,9x4,5	Screw 2.9x4.5	Schraube 2,9x4,5	all
1644	2013080	2013098	Skrue 2,9x4,5	Screw 2.9x4.5	Schraube 2,9x4,5	all
1650		2624007	Skive 3,2	Washer 3.2	Scheibe 3,2	3040001
1651		2622041	Skive 3,2	Washer 3.2	Scheibe 3,2	3040001
1652		2364044	Nitte	Rivet	Niet	2945001
1203	2624025	2642025	Friktionsplade	Friction piece	Friktionsstück	all